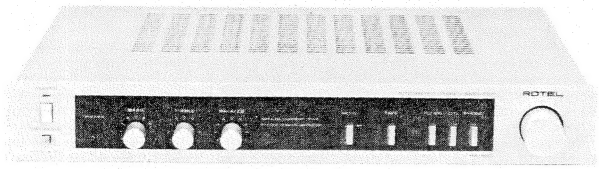


Technical Manual



RA-820

STEREO INTEGRATED AMPLIFIER

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INHALTAVERZICHMIS

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THE ROTEL CO., LTD.
ROTEL ELECTRONICS CO., LTD.
ROTEL HI FI LIMITED.

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2-4 ERICA ROAD, STACEY BUSHES, MILTON KEYNES, BUCKINGHAMSHIRE, ENGLAND

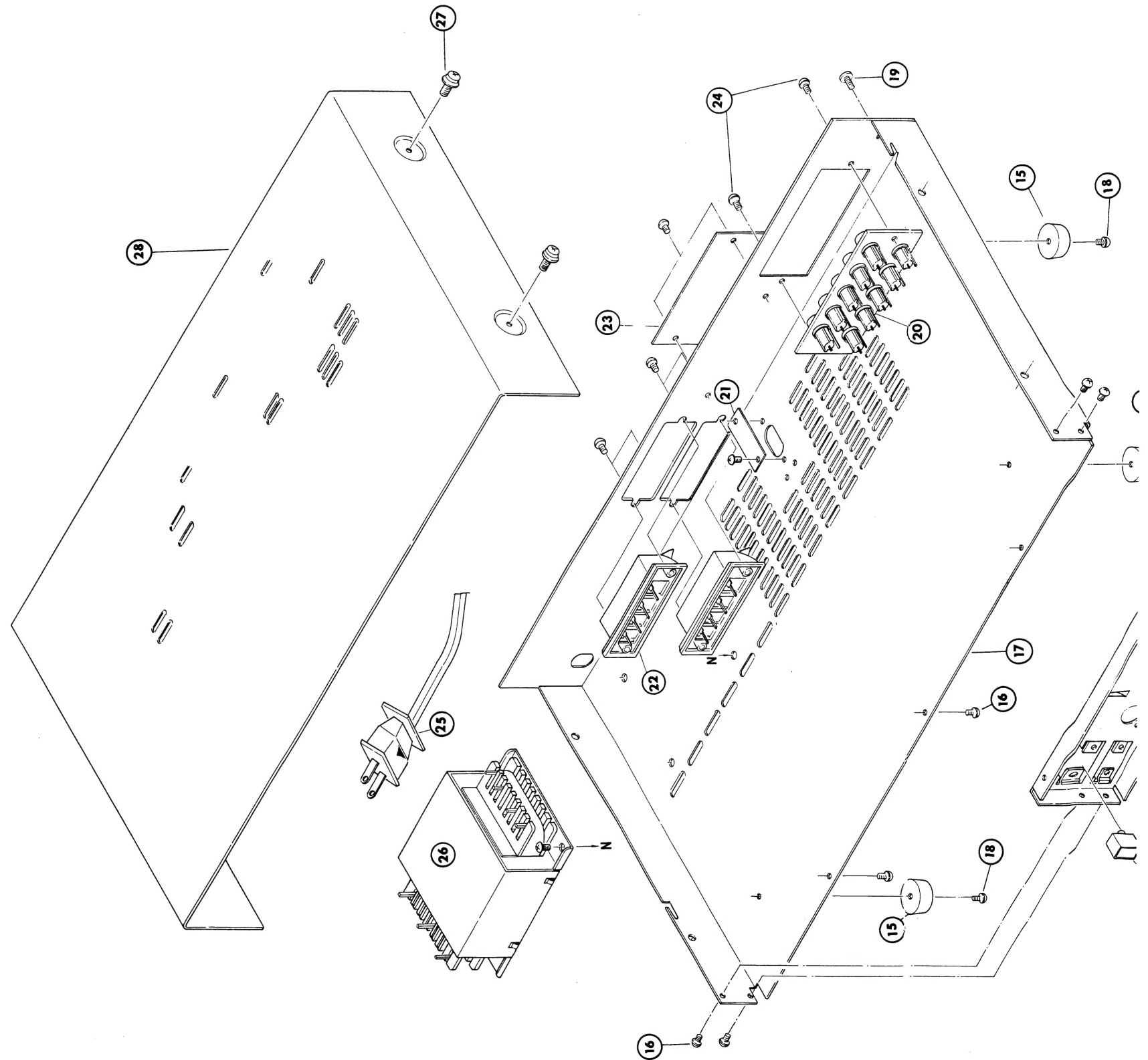
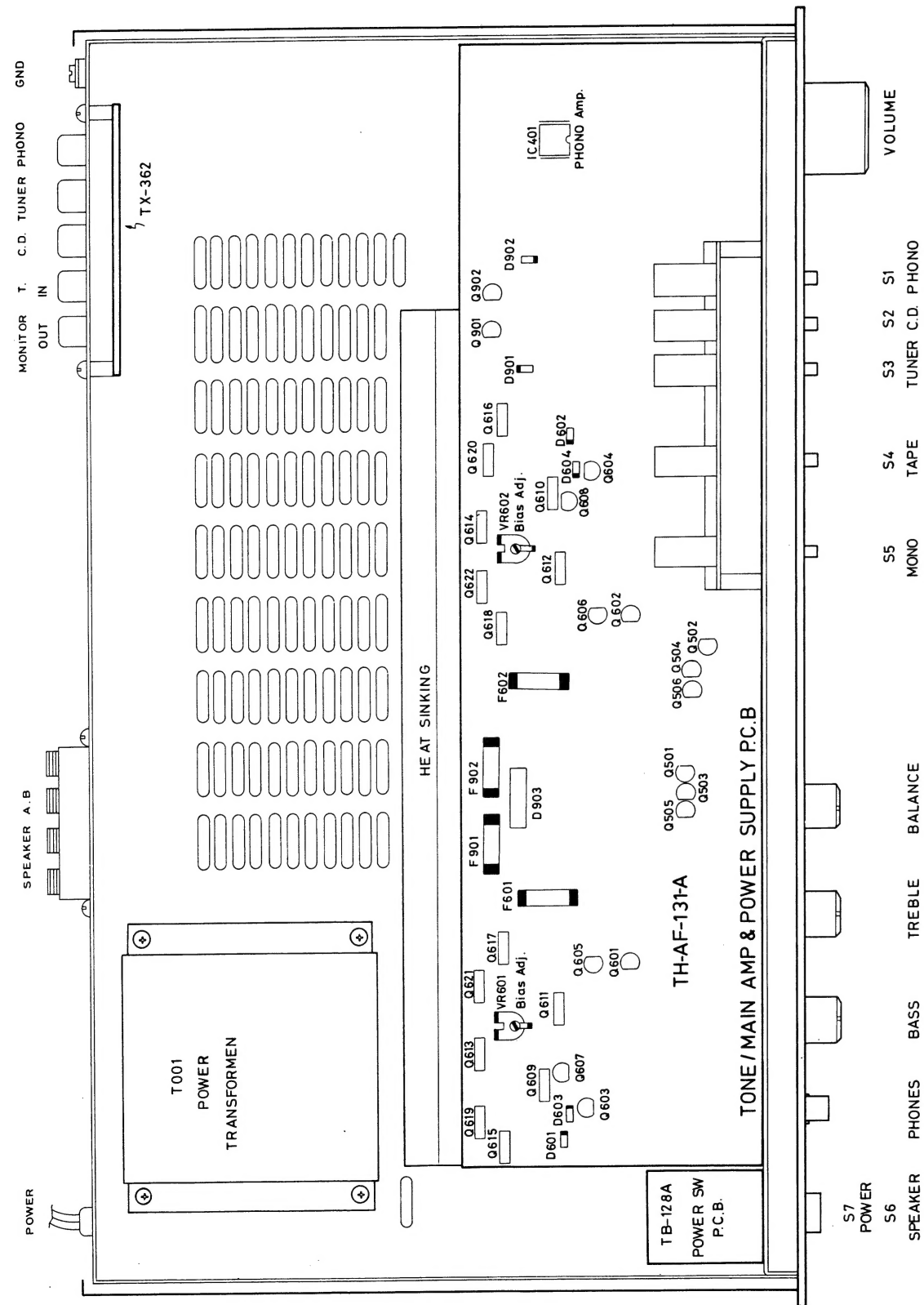
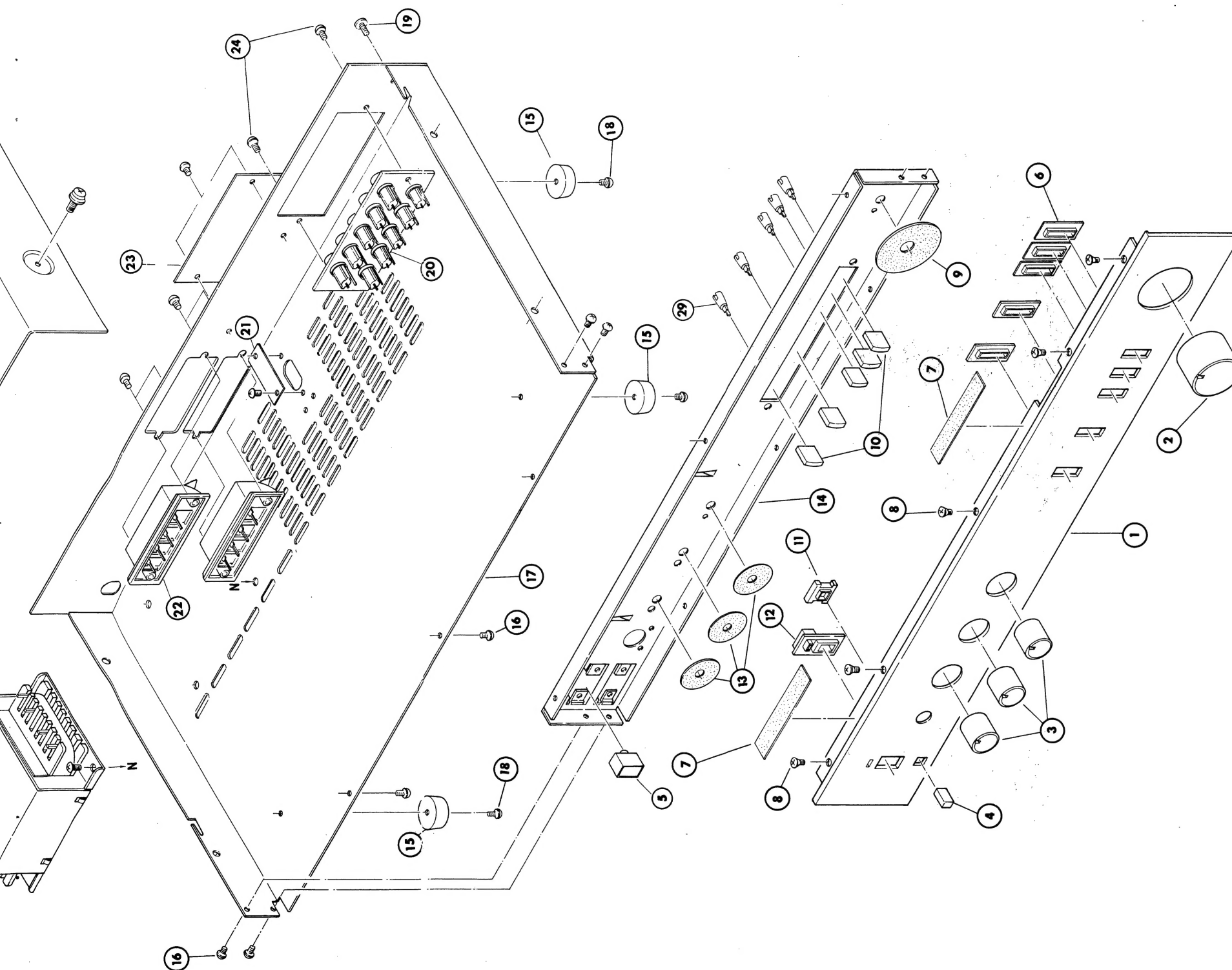


Illustration des Auseinanderbaus/ Schéma de démontage



Key No.	Computer No.	Parts No.	Description
1	AA20000269	0102TWB-1#3	Front Panel
2	KB10000420	012C-3871A-T#1	Knob (VOLUME)
3	KB10000456	0124TR-1540A#1	Knob (BASS/TREBLE/BALANCE)
4	KB20000131	012C-3049A#4	Push Button (SPEAKERS)
5	KB20000209	012C-3982	Push Button (POWER)
6	BU00000300	019C-3546-T#1	Push Ring (TUNER/ CD/PHONO/ MONO/TAPE)
7	FE00000080	0194TR-1087	Felt
8	SW12300612	071SA3x6N	Screw, MF 3x6Ni
9	FE00000079	0194TR-1083B#3	Felt
10	KB20000106	012C-3372#1	Push Button (TUNER/ CD/PHONO/ MONO/TAPE)
11	BU00000311	019C-3547-T#1	Push Ring (SPEAKERS)
12	BU00000323	0194TR-1546#1	Push Ring (POWER)
13	FE00000067	0194TR-1083B#1	Felt
14	AF20000106	0132TWB-2C	Front Chassis
15	FT00000035	0194TR-1257A	Plastic Foot
16	SW26300615	071BZTP3x6Z	Screw, TPV 3x6Ni
17	AM00000776	015TRP-320	Chassis Body (TRP-320B)
	AM00000788	015TRP-321	Chassis Body (TRP-321B)
	AM00000790	015TRP-322	Chassis Body (TRP-322B)
18	SW26300810	071BZTP3x8Z	Screw, TPV3x8Ni
19	SW00000136	0714TR-1246#2	G.N.D. Screw, 4x8Ni
20	JP10000060	0624TR-1138B#4	Terminal, 10P, RCA Type
21	SP10000063	0134TR-1147	Mask
22	TP10000088	0623TR-1732#1	Terminal, Push 4P, Speaker A/B
23	NP00000441	015TNP-234	Name Plate (for BEAB)
24	SW16300620	071NB3x6B	Screw, MV3x6BK
25	CD00000036	0724TR-670#1	Line Cord (UL)
	CD00000097	0724TR-670#2	Line Cord (CSA)
	CD00000048	0724TR-815	Line Cord (for Europe)
	CD00000085	072C-2504	Line Cord (for BEAB)
	CD00000115	072C-3763	Line Cord (for Austria)
26	PT00000011	022T-170G	Transformer
	PT00000060	022T-170AF	Transformer (CSA)
27	SW17400610	071NBW4x6N	Screw, MPW4x6Ni
28	AU00000166	0142TWE-5#2	Upper Cover
29	OM00000471	0194TR-1216	Push Button Connector

Schematic Location	Computer No.	Parts No.	Description
TRANSISTORS, DIODES AND IC'S			
IC401	IC00000718	031NE5532N	NE5532 PHONO Amp.
Q501, 502	TR30000108	033SC1570-EF	2SC1570 (E, F) Flat Tone Amp.
Q503, 504	TR10000023	0332SA1016-EF	2SA1016 (E, F) Flat Tone Amp.
Q505, 506	TR30000108	033SC1570-EF	2SC1570 (E, F) Flat Tone Amp.
Q601, 602	TR10000023	0332SA1016-EF	2SA1016 (E, F) Differential Amp.
Q603, 604	TR10000023	0332SA1016-EF	2SA1016 (E, F) Constant Current
Q607, 608	TR10000023	0332SA1016-EF	2SA1016 (E, F) Main Amp. Bias Compensator
Q609, 610	TR10000047	0332SB631-DE	2SB631 (D, E) Main Amp Bias Compensator
Q611, 612	TR30000169	0332SC1941-E	2SC1941 (E) Pre-Driver
Q613, 614	TR30000110	0332SD600-DE	2SD600 (D, E) Idling Driver
Q615, 616	TR30000110	0332SD600-DE	2SD600 (D, E) Driver
Q617, 618	TR10000047	0332SB631-DE	2SB631 (D, E) Driver
Q619, 620	TR40000021	0332SD896-DE	2SD896 (D, E) Power Amp.
Q621, 622	TR20000014	0332SB776-DE	2SB776 (D, E) Power Amp.
Q901	TR30000108	0332SC1570-EF	2SC1570 (E, F) Stabilizer
Q902	TR10000023	0332SA1016-EF	2SA1016 (E, F) Stabilizer
D601-604	DD10000100	0341N4148	1N4148 Bias Compensator
D901, 902	DD20000041	034WZ-182	WZ-182 Zener Regulator
D903	DD10000020	034KBL-02	KBL-02 Rectifier
D001	DD40000095	034LN224RP	LN224RP Power LED (Red LED)
COILS AND VARIABLE RESISTORS			
VR501	RV10000445	0514TR-1792	50Kx2 Volume Control
VR502	RV10000457	0514TR-1793	100KMNx2 BALANCE Control
VR503, 504	RV10000433	0514TR-1742	20KBx2 BASS/TREBLE Control
VR601, 602	RV20000338	0518-1401-2K	2KB Bias Adj.
SWITCHES AND OTHERS			
S1-S5	SH17000018	0614TR-1562	Switch Push 7-Key TUNER C D/PHONO/TAPE/MONO
S6	SH11000082	0614TR-1289A	Switch Push 1-Key SPEAKER A+B
S7	SH40000120	061C-3600B	Power Switch
T001	PT00000060	022T-170AF	Power Transformer (120 Only)
	PT00000011	022T-170G	Power Transformer (Multi Type)
F901, 902	FU11000050	036L250V3A	Fuse 3A AC Circuit Protector (Long Size)
	FU12000082	036ASG3250V3A	Fuse 3A AC Circuit Protector (Long Size UL)
	FU21000058	036M3.15A	Fuse 3.15A AC Circuit Protector (Mini Size)
	FU23000062	036SF3.15A	Fuse F3.15A AC Circuit Protector (Mini Size "S" "D" Mark)
F601, 602	FU11000050	036L250V3A	Fuse 3A Speaker Protector (Long Size)
	FU12000082	036ASG3250V3A	Fuse 3A Speaker Protector (Long Size UL)
	FU21000058	036M3.15A	Fuse 3.15A Speaker Protector (Mini Size)
	FU23000062	036SF3.15A	Fuse F3.15A Speaker Protector (Mini Size "S" "D" Mark)

Instruments: DC milli-voltmeter

Notes: Prior to Bias Adjustment, run about 5 minutes with rated output (8 ohm) and warm up Power Transistor and Heat Sink.

Set Volume Control to Minimum.

Step	Coupling		Adjust	Adjust for
	Plus Lead	Minus Lead		
1	TP3	TP1	VR601	DC milli-voltmeter reads 4mV
2	TP4	TP2	VR602	

Endverstärker-Vorspannung-Einstellung

Instruments: DC-Gleichstrom-millivoltmeter

Anmerkung: Vor Einstellung der Vorspannung ist das Gerät etwa 5 Minuten mit Nennleistung unter 8 ohm Belastung zu betreiben, um die Leistungstransistoren und Kühlbleche warm werden zu lassen. Lautstärkerregler Volumenkontrolle auf Minimum stellen.

Schritt	Anschluss		Abgleich	Abgleich auf
	Pruefstift	Minuspole		
1	TP3	TP1	VR601	DC-Gleichstrom-millivoltmeter auf 4mV einstellen.
2	TP4	TP2	VR602	

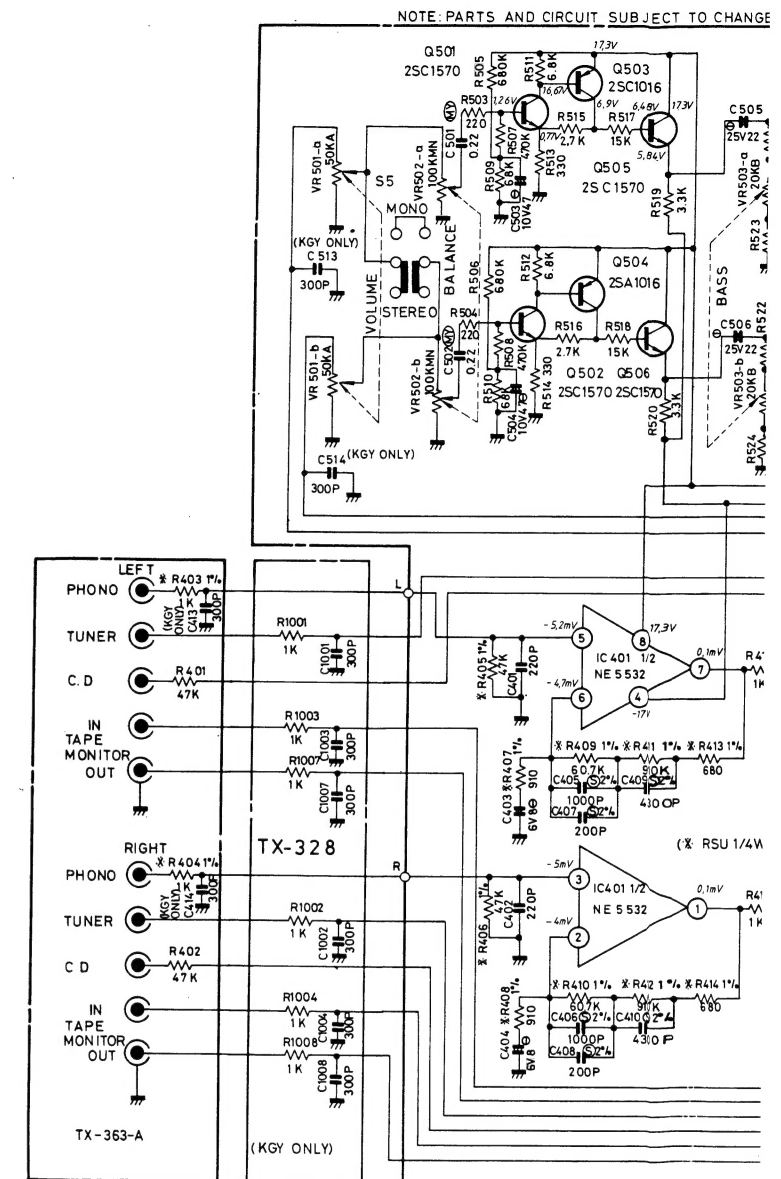
Réglage de la polarisation de l'amplificateur de puissance

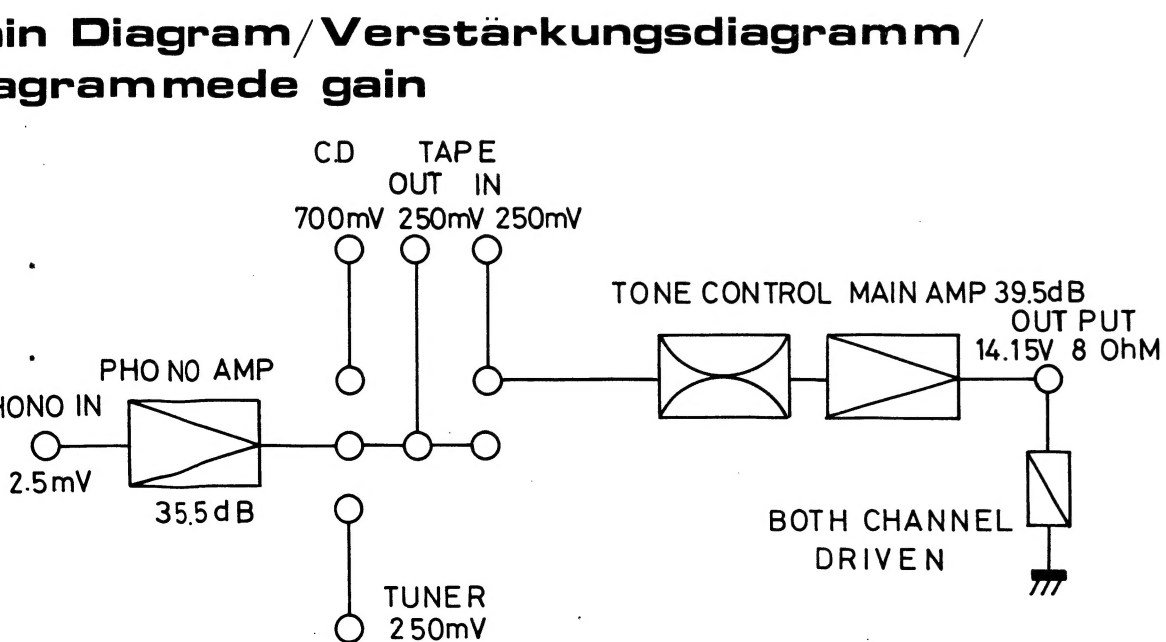
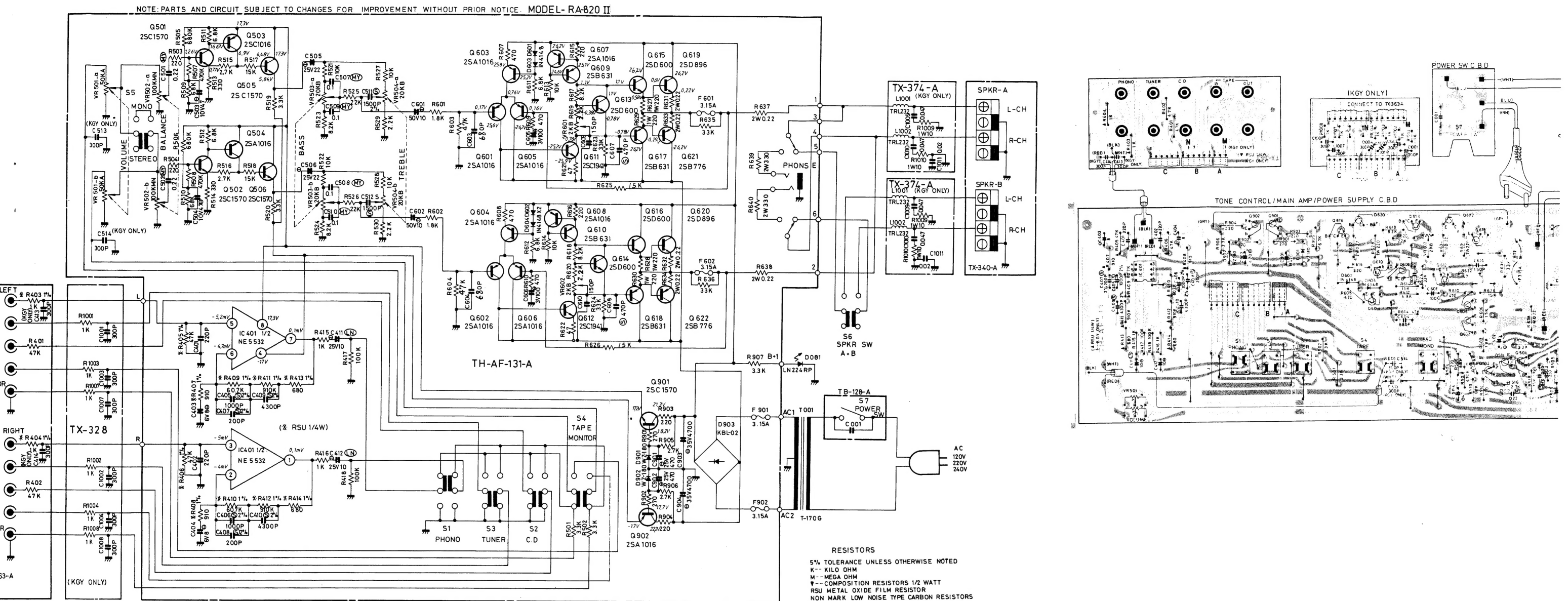
Instrument: DC milli-voltmètre

Note: Avant le réglage de la polarisation, passer à peu près 5 minutes avec une proportion de la sortie du courant (8 ohm) et réchauffer le transistor de puissance et le sink. Mettre le contrôle de l'étendue au minimum.

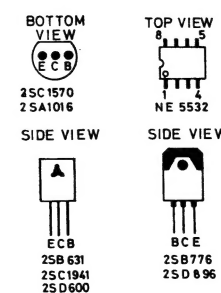
Point	Couplage		Réglage	Réglage pour
	Positif	Moins		
1	TP3	TP1	VR601	DC-millivoltmeter lit 4mV.
2	TP4	TP2	VR602	

NOTE: PARTS AND CIRCUIT SUBJECT TO CHANGE

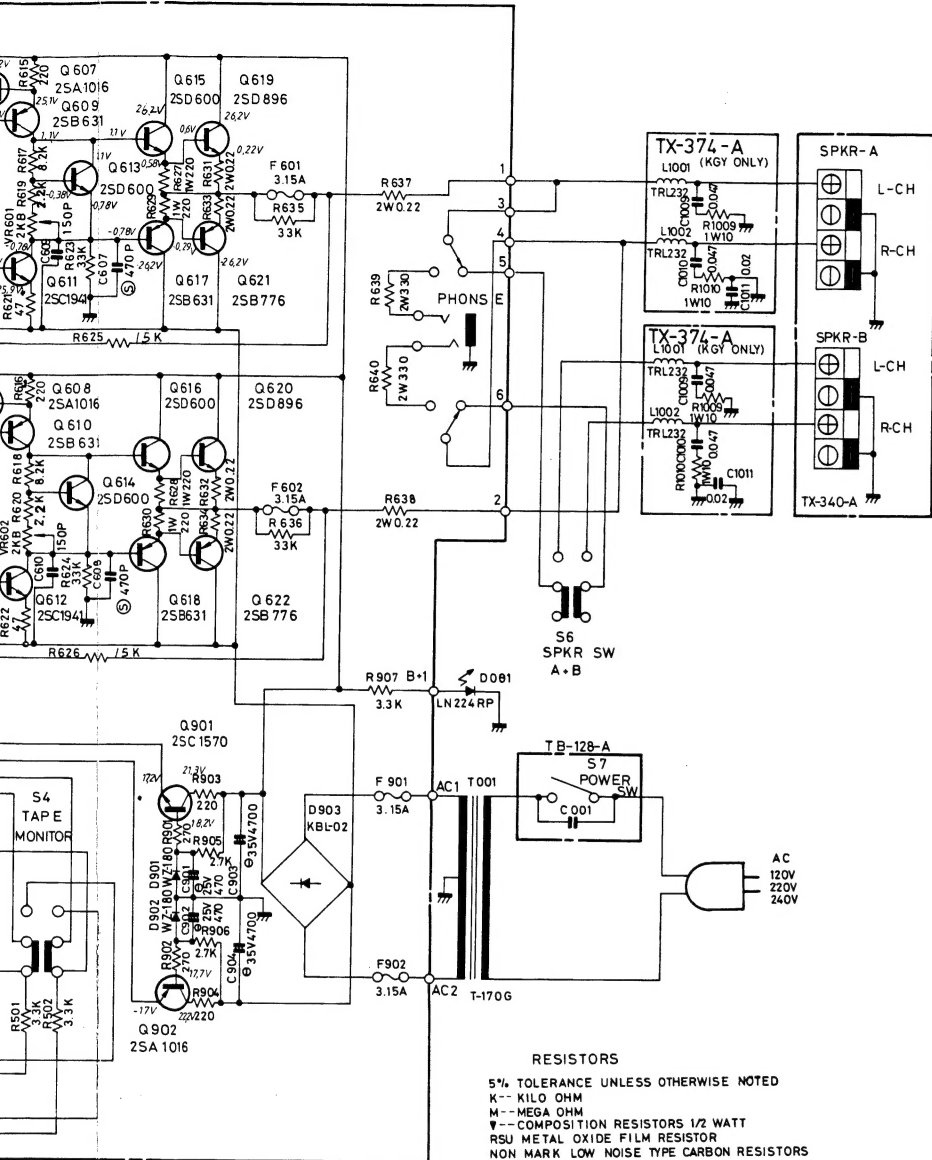




ITEM	SCHEMATIC	
	LOCATION	LAST
PHONO AMP	R418	C412
TONE CONTROL	R530	C514
MAIN AMP	R640	C610
POWER SUPPLY	R907	C904



RA-820 II



RESISTORS
5% TOLERANCE UNLESS OTHERWISE NOTED
K-- KILO OHM
M-- MEGA OHM
V-- COMPOSITION RESISTORS 1/2 WATT
RSU METAL OXIDE FILM RESISTOR
NON MARK LOW NOISE TYPE CARBON RESISTORS

CAPACITORS
LOW NOISE ELECTROLYTIC CAPACITORS
MYLAR FILM CAPACITORS
POLYSTYRENE FILM CAPACITORS
ELECTROLYTIC CAPACITORS
NON MARK CERAMIC CAPACITORS
UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITANCE VALUES ARE EXPRESSED IN MFD

ITEM	SCHEMATIC LOCATION
PHONO AMP	R418 C412
TONE CONTROL	R530 C514
MAIN AMP	R640 C619
POWER SUPPLY	R907 C904

